

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 21 JUN 2005

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Applicant's or agent's file reference PU030200	FOR FURTHER ACTION See Form PCT/PEA416	
International application No. PCT/US2004/021800	International filing date (day/month/year) 08.07.2004	Priority date (day/month/year) 14.07.2003
International Patent Classification (IPC) or national classification and IPC H04N5/46, H04N5/44		
Applicant THOMSON LICENSING S.A. et al		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 7 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☐ sent to the applicant and to the International Bureau a total of sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of (Indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

Date of submission of the demand  21.02.2005	Date of completion of this report  17.06.2005
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Schreib, F  Telephone No. +49 89 2399-7114  

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/US2004/021800

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-10 as originally filed

**Claims, Numbers**

1-18 as originally filed

**Drawings, Sheets**

1/2-2/2 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	5,6,7,11,16,17,18
	No: Claims	1,2,3,4,8,9,10,12,13,14,15
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

Re Item V.

1. The following documents are referred to in this communication:

D1 : GB 2 257 605 A (BRENNAN PAUL VICTOR) 13 January 1993 (1993-01-13)

D2 : WO 00/64050 A (WEBTV NETWORKS INC) 26 October 2000 (2000-10-26)

D3 : US 2002/008787 A1 (KURIHARA TADAO) 24 January 2002 (2002-01-24)

2. INDEPENDENT CLAIMS

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1, 8 and 12 is not new in the sense of Article 33(2) PCT. Document D1 discloses as in claim 1 (the references in parenthesis applying to this document):

Signal processing apparatus (*see Fig. 1: A diversity receiver system is a signal processing apparatus*), comprising:

first tuning means for generating a first IF signal corresponding to a first RF signal;  
first demodulating means for generating a first demodulated signal corresponding to said first IF signal (*see page 2, lines 1-8 and Fig. 1: The diversity receiver system consists of individual receivers with references 31,32,... . Each receiver transforms the signal from RF to an IF and demodulates the signal. Therefore each receivers consists of a tuner and a demodulator*);

second tuning means for generating a second IF signal corresponding to a second RF signal; second demodulating means for generating a second demodulated signal corresponding to said IF signal (*see arguments for first tuning and demodulating means; As there are more than 2 receivers there are also second tuning and demodulating means*);

third demodulating means for generating a third demodulated signal corresponding to one of said first and second IF signals (*see arguments for first tuning and demodulating means; as there are more than 2 receivers*

*there are also third demodulating means. The third receiver receives the same signal as the first receiver and the second receiver. Therefore the demodulated signal of the third receiver also corresponds to first and second IF signals);*

Hence all features of claim 1 are known.

2.2 The subject-matter of claim 1 also is disclosed by document D2.

2.2.1 Document D2 discloses (the references in parenthesis applying to this document):

A signal processing apparatus comprising:  
first tuning means for generating a first IF signal corresponding to a first RF signal (*see Fig. 2, Analog television tuner 214: The output of the analog television tuner is an IF signal*);

first demodulating means for generating a first demodulated signal corresponding to said first IF signal (*see Fig. 2, ASIC block 214 and page 9, lines 25-29: The ASIC contains a demodulator for the analog television tuner*);

second tuning means for generating a second IF signal corresponding to a second RF signal (*see Fig. 2, Analog cable tuner 218: The output of the analog cable tuner is an IF signal. The RF signal from analog cable is a second RF signal*);

second demodulating means for generating a second demodulated signal corresponding to said second IF signal (*see Fig. 2, ASIC block 214 and page 9, lines 25-29: The ASIC contains a demodulator for the analog cable tuner*);

third demodulating means for generating a third demodulated signal corresponding to one of said first and second IF signal (*see Fig. 2 block*

*214 and page 2 lines 14-20: The apparatus of D1 has the capability of demodulating in ASIC block 214 digital television broadcasts received via the analog TV tuner by antenna or via the analog cable tuner by cable)*

Hence all the features of claim 1 also are known by D2.

- 2.2.2 D2 also discloses a method using the apparatus of claim 1 for channel selection in a TV receiver. Therefore the subject-matter of claims 8 and 12 is not new.
3. The subject-matter of dependent claims 2-4 and claims 9, 10, 13-15 is not novel (Article 33(2) PCT). D2 already discloses in Fig. 2 and on page 9, lines 25-29 that a first RF signal is provided by a terrestrial signal source, that a second signal is provided by a cable signal source. It also discloses implicitly that the ASIC has a first analog demodulator for the terrestrial signal, a second analog demodulator for the cable signal and a third digital demodulator being able to demodulate digital signals being received via analog cable tuner or analog TV tuner.
4. The subject-matter of claims 5, 6, 11, 16, and 17 does not meet the requirements of Article 33(3) PCT. Claims 5 and 6 differ from the disclosure of D2 in that the control of the AGCs in tuners by the demodulators is disclosed. Claim 6 and claim 7 state that each demodulator has its own AGC control algorithm and controls the connected tuner according to its requirements. If two demodulators share a tuner switches are necessary to select between the AGC signals of the demodulators. All these feature are disclosed by D3 in Fig. 2 and in paragraphs 29, 37, 45, 47 and 52. Therefore the person skilled in the art arrives at the subject-matter of claims 5 and 6 without an inventive step by combining the teachings of D2 and D3.
5. The subject-matter of claims 7 and 18 does not meet the requirements of Article 33(2) PCT. Using a switch to provide one of the first or second IF signals to the third demodulating means is an implicit feature of the ASIC block 214 in D2, Fig. 2.

**Re Item VIII.**

6. Claim 1 is not supported by the description as required by Article 6 PCT, as its scope is broader than justified by the description and drawings. The reasons therefor are the following:

A diversity receiver as disclosed in D1 falls under the scope of claim 1. But nowhere in the description a diversity receiver is described. Therefore the scope of claim 1 is broader than justified by the description.

7. The term "corresponding" in the context of signals used in claims 1, 8 and 12 is vague and unclear. If first tuner and second tuner receive exactly the same TV signal via cable, via terrestrial TV or satellite TV the IF signals of the different tuners correspond. "Corresponding" therefore not necessarily means that there is a more or less (e.g. with filter) direct electrical connection between the signals as it is disclosed in the description.